

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application. Please amend the claims as follows:

Listing of Claims:

1-21. (Canceled)

22. (Currently amended) A system for treating ~~patients~~ a patient suffering from movement disorder, comprising

~~at least one pulse generator capable of generating~~ adapted to generate at least two electrical signals comprising a predetermined sequence of electrical pulses, wherein said signals are synchronous or asynchronous relative to each other, and

~~at least two electrodes electrically coupled to the~~ at least one pulse generator, said at least two electrodes adapted to be implanted in the patient's body and coupled to, respectively, one of the right right vagus nerve and the ~~and left branches of the vagus nerve of the patient at a location in a range from about two to about three inches above or below the patient's diaphragm, for alleviating symptoms of the movement disorder in the patient;~~

~~wherein, when implanted, said at least two electrodes apply said electrical signal bilaterally to the right~~ vagus nerve and the ~~left branches of the vagus nerve from a location in the vicinity of the patient's diaphragm.~~

23. (Currently amended) The system of claim 22, wherein each said at least one pulse generator is programmable to enable physician programming of a plurality of parameters defining said sequence of electrical pulses.

24. (Currently amended) The system of claim 22, wherein the at least two electrodes are ~~each adapted to be directly attached to, respectively, to one of the right~~ vagus nerve and the left ~~branches of the patient's vagus nerve to directly, bilaterally stimulate the right and left branches of the vagus nerve.~~

25. (Canceled)

26. (Currently amended) The system of claim 22, wherein said at least two electrodes are each adapted to be attached to respective portions of the patient's body remote from the right vagus nerve and the left vagus nerve to indirectly, bilaterally stimulate the right vagus nerve and the left branches of the vagus nerve.

27. (Currently amended) The system of claim 22, further including
a sensor for sensing the patient's body movement, and
a sense signal analysis circuit that analyzes a signal produced by the sensor, for determining whether the patient's movement is an involuntary movement characteristic of the movement disorder being treated, wherein said sense signal analysis circuit activates the pulse generator to synchronously or asynchronously stimulate the right and left branches of the vagus nerves if the movement is determined to be such an involuntary movement.

28. (Currently amended) The system of claim 22, further including activation means associated with ~~the said at least one~~ pulse generator for enabling patient activation of the pulse generator to stimulate the right and left vagus nerves.

29. (Currently amended) Apparatus for treating ~~patients~~ a patient suffering from movement disorder, comprising
a first pulse generator adapted to enable of generating an first electrical signal;
a second pulse generator adapted to generate a second electrical signal, wherein said first and said second electrical signals are synchronous or asynchronous relative to one another; and
a first electrode coupled to said first pulse generator, said electrode ~~at least two electrodes~~ adapted to be implanted in a patient ~~to treat said movement disorder by applying the electrical signal generated by said pulse generator~~ and to deliver said first electrical signal to the right and left branches of the patient's vagus nerve, wherein a first electrode of said ~~at least two electrodes~~ is coupled to said pulse generator and is adapted to be attached to the right branch of said vagus

nerve at a location in a range from about two to about three inches above or below the patient's diaphragm; and

a second electrode coupled to said second pulse generator, said electrode adapted to be implanted in a patient and to deliver said second electrical signal to the left vagus nerve of said at least two electrodes is coupled to said pulse generator and is adapted to be attached to the left branch of said vagus nerve at a location in a range from about two to about three inches above or below the patient's diaphragm, for relieving symptoms of the movement disorder in the patient;

wherein, when implanted, said first and said second at least two electrodes apply said first and said second electrical signals bilaterally to the right and left branches of the vagus nerve in the vicinity of the patient's diaphragm.

30. (Currently amended) The apparatus of claim 29, wherein each said first and said second pulse generator is adapted to be programmed by a physician to provide electrical parameters defining said electrical signal.

31. (Currently amended) The apparatus of claim 29, further comprising electrical leads coupled to each of said at least two first and said second electrodes and having a length sufficient to enable each of said at least two electrodes to be adapted to be attached to one of said right vagus nerve and said left branches of the vagus nerve.

32. (Currently amended) The apparatus of claim 29, further comprising a programming unit coupled to said first and said second pulse generators for programming a plurality of parameters to define said electrical signals.

33. (Previously presented) The apparatus of claim 32, wherein said first and said second pulse generators is-are adapted to be implanted in the body of the patient and said programming unit is external to the patient's body and wirelessly coupled to said pulse generators.

34. (Currently amended) A system for treating a patient having a movement disorder comprising:

a first and second pulse generators, each adapted to ~~enable~~ generating an electrical signal, wherein said electrical signal generated by each said pulse generator is synchronous or asynchronous relative to the other electrical signal;

at least two implanted electrodes, each one coupled to one of the two ~~the~~ pulse generators respectively and wherein at least a first ~~one~~ of said electrodes is adapted to be attached to ~~each of the left and right vagus nerve branches of the patient at a location below the patient's diaphragm,~~ and at least a second of said at least two electrodes is adapted to be attached to the left vagus nerve at a location below the patient's diaphragm, wherein said first and second implanted electrodes each apply ~~an one of the two~~ electrical signals to ~~each of the right vagus nerve the and left branches of the vagus nerve~~ respectively to treat said movement disorder; and

a programming unit for programming said pulse generators to define each said electrical signal.

35. (Currently amended) The system of claim 34 wherein said pulse generators ~~is~~ are adapted to be implanted in the body of the patient.

36. (Currently amended) The system of claim 34 wherein said pulse generator is external to the body of the patient and is wirelessly coupled to said at least ~~one~~ two implanted electrodes.

37. (Previously Presented) The system of claim 34 wherein said programming unit is capable of programming at least one parameter selected from the group consisting of current magnitude, frequency, pulse width, on-time and off-time.

38. (Currently amended) A system for treating ~~patients~~ a patient suffering from a movement disorder, comprising

~~a-at least two pulse generators, each adapted to~~ capable of generating an electrical signal comprising a predetermined sequence of electrical pulses, wherein each of said electrical signals is synchronous or asynchronous relative to the other electrical signal; and

at least ~~one-two~~ electrodes electrically coupled to the pulse generators, said electrodes adapted to be implanted in the patient's body and adapted to be coupled to a vagus nerve of the patient at a location in a range from about two to about three inches above or below the patient's diaphragm, for alleviating symptoms of the movement disorder in the patient;

wherein, when implanted, said ~~at least one~~ electrodes synchronously or asynchronously stimulates the patient's vagus nerve with ~~an~~ electrical pulse signals applied directly or indirectly thereto at a location in the immediate vicinity of the patient's diaphragm.

39. (Currently amended) The system of claim 37, wherein said ~~at least one~~ electrodes delivers unilateral supra- or sub-diaphragmatic stimulation of either the left vagus nerve branch or the right ~~branch of the vagus nerve~~.

40. (Currently amended) The system of claim 37, wherein said ~~at least one~~ at least two electrodes comprises at least a pair of electrodes, and said pair of electrodes delivers bilateral supra- or sub-diaphragmatic stimulation of the left and right branches of the vagus nerve.